Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (currently amended): A method of etching a substrate provided with pre-defined masked regions, whose elemental constituents are selected from Groups III and V ~~or from groups II and VI~~ of the Periodic Table, comprising the steps of: a) forming a gas containing molecules having at least one methyl group (CH_3) linked to nitrogen into a plasma; and b) etching the unmasked regions of the substrate by means of the plasma such that etching of the group III materials is enhanced, thereby reducing the effect of preferential etching of the group V materials in groups III-V compounds.

2. (original): The method according to Claim 1, wherein said etching gas is selected from the group consisting of methylamine (CH_3NH_2), dimethylamine ($(CH_3)_2NH$) and trimethylamine ($(CH_3)_3N$).

3. (currently amended): A method of etching a substrate provided with pre-defined masked regions, whose elemental constituents are selected from Groups II and VI of the Periodic Table, comprising the steps of: a) forming an etching gas comprising trimethylamine ($(CH_3)_3N$) into a plasma; and b) etching the unmasked regions of the substrate by means of the plasma such that etching of the group II materials is enhanced, thereby reducing the effect of preferential etching of the group VI materials in groups II-VI compounds.

4. (currently amended): The method according to Claim 1, wherein said etching gas is mixed with another gas selected from the group consisting of a

~~H_2, N_2, O_2, Ar or another~~ rare gas, ~~or Cl_2, BCl_3 or other~~ a halogen-containing gas, or ~~any~~ a combination thereof ~~of these~~.

5. (previously presented): A method according to Claim 1, wherein said step (a) comprises forming the gas into a plasma by supplying microwave electric power with a magnetic field to the etching gas.

6. (previously presented): A method according to Claim 1, wherein said step (a) comprises forming the gas into a plasma by supplying microwave electric power to the etching gas.

7. (previously presented): A method according to Claim 1, wherein said step (a) comprises forming the gas into a plasma by supplying radio frequency electric power to the etching gas.

8. (previously presented): A method according to Claim 1, wherein said step (a) comprises forming the gas into a plasma by supplying DC electric power to the etching gas.

9. (previously presented): A method according to Claim 1, wherein the ions are accelerated by a DC bias.

10. (original): A method according to Claim 9, wherein said DC bias creates energy in the range of 0-2000 eV.

11. (previously presented): A method according to Claim 1, wherein the applied power is converted to an ion energy in the range of 0-2000 eV.

12. (cancelled)

13. (currently amended): The method according to Claim 3, wherein said etching gas is mixed with another gas selected from the group consisting of a ~~H_2, N_2, O_2, Ar or another~~ rare gas, ~~or Cl_2, BCl_3 or other~~ a halogen-containing gas, or ~~any~~ a combination thereof ~~of these~~.

14. (original): A method according to Claim 3, wherein said step (a) comprises forming the gas into a plasma by supplying microwave electric power with a magnetic filed to the etching gas.

15. (original): A method according to Claim 3, wherein said step (a) comprises forming the gas into a plasma by supplying microwave electric power to the etching gas.

16. (original): A method according to Claim 3, wherein said step (a) comprises forming the gas into a plasma by supplying radio frequency electric power to the etching gas.

17. (original): A method according to Claim 3, wherein said step (a) comprises forming the gas into a plasma by supplying DC electric power to the etching gas.

18. (original): A method according to Claim 3, wherein the ions are accelerated by a DC bias.

19. (original): A method according to Claim 18, wherein said DC bias creates energy in the range of 0-2000 eV.

20. (original): A method according to claim 1, wherein the applied power is converted to an ion energy in the range of 0-2000 eV.

21. (new): The method according to Claim 4, wherein said rare gas is selected from the group consisting of a H_2, N_2, O_2, Ar or a combination thereof, and said halogen-containing gas is selected from the group consisting of Cl_2, BCl_3 or a combination thereof.

22. (new): The method according to Claim 13, wherein said rare gas is selected from the group consisting of a H_2, N_2, O_2, Ar or a combination thereof, and said halogen-containing gas is selected from the group consisting of Cl_2, BCl_3 or a combination thereof.

23. (new): A method of etching a substrate provided with pre-defined masked regions, whose elemental constituents are selected from Groups II and VI of the periodic Table, comprising the steps of: a) forming a gas containing molecules having at least one methyl group (CH_3) linked to nitrogen into a plasma; and b) etching the unmasked regions of the substrate by means of the plasma such that etching of the group II materials is enhanced, thereby reducing the effect of preferential etching of the group VI materials in groups II-VI compounds.

24. (new): The method according to claim 23, wherein said etching gas is selected from the group consisting of methylamine (CH_3NH_2), dimethylamine ($(CH_3)_2NH$) and trimethylamine ($(CH_3)_3N$).

25. (new): The method according to claim 23, wherein said etching gas is mixed with another gas selected from the group consisting of a rare gas, a halogen-containing gas, or a combination thereof.

26. (new): The method according to Claim 25, wherein said rare gas is selected from the group consisting of a H_2, N_2, O_2, Ar or a combination thereof, and said halogen-containing gas is selected from the group consisting of Cl_2, BCl_3 or a combination thereof.